Quest Journal of Management and Social Sciences
Volume 6 Issue 3: 504-519
ISSN Print: 2705-4527
ISSN Online: 2705-4535
Web: https://www.quest.edu.np

Harnessing social media strategic capability for stakeholder safety performance: Do firm reputation and circular economy entrepreneurship matter?

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Received: 2 July 2024
Revised: 18 November 2024
Accepted: 25 November 2024
Published: 30 December 2024

How to cite this paper:
Rijal, A. (2024). Harnessing social media strategic capability for stakeholder safety performance: Do firm reputation and circular economy entrepreneurship matter?. Quest Journal of Management and Social Sciences, 6(3). https://doi.org/10.3126/qjmss.v6i3.72204

Abstract

Background: Stakeholder safety plays a pivotal role in the growth of any industry, particularly in the manufacturing industry. Thus, firms have realised their obligation towards stakeholder safety.

Objective: While past studies have highlighted the role of social media strategic capabilities (SMSC) in promoting stakeholder safety performance (SSP), this study examines the direct impact of SMSC on SSP and the mediating effect of firm reputation (FR) and circular economy entrepreneurship (CEE) in the SMSC-SSP relationship.

Method: This study collected 152 responses from small and medium manufacturing enterprises in Nepal via an online survey. The study used the partial least square structural equation modelling (PLS-SEM) technique for data analysis and interpretations.

Result: This study reveals that while SMSC has no direct and significant influence on SSP, its indirect effects on SSP via FR and CEE significantly indicate full mediation effects. These findings demonstrate that social media platforms are excellent sources of information for firms in building strong stakeholder collaborations, amassing other external resources, boosting FR, and aiding in the exploitation of CE opportunities.

Conclusion: Drawing on stakeholder theory and resource-based view, this study is among the first to develop SMSC, firm reputation, and circular economy entrepreneurship as antecedents for achieving SSP in the context of an emerging economy. Manufacturing firms' managers may promote SSP by identifying new safety approaches via information derived from social media platforms, which boosts reputation and circular economy entrepreneurship.

Paper Types: Research Paper

Keywords: Social media strategic capability; Stakeholder safety performance; Firm reputation; Circular economy entrepreneurship; Manufacturing firms

JEL Classification: D12, L86, L96, M31

1. Introduction

In recent years, several news outlets have highlighted how product defects have caused harm to customers, sometimes leading to injuries and deaths. For instance, in 2016, Samsung, an electronics manufacturer, declared product recalls of about 2.5 million Galaxy Note 7 phones due to the risk posed by faulty batteries, such as overheating and causing fires or explosions (Suhanyiova et al., 2020). Furthermore, scholars (Grunwald & Hempelmann, 2010; Tang et al., 2014) indicate that other safety concerns create safety risks for customers and the public, such as selling expired and low-quality products. Despite enforcing regulatory safety standards, product safety failure is common and presents significant risks to internal and external stakeholders (Suhanyiova et al., 2020). However, safety performance, defined as a firm's ability to control incidents that are prone to injuries, fatalities and damage to resources (Botti et al., 2022; Sha et al., 2024), has predominantly been viewed from the internal stakeholder perspectives such as employee injuries and workplace accidents (Sanni-Anibire et al., 2020; Yanar et al., 2019), relegating external stakeholders to the background. Given this backdrop and the increasing power of internal and external stakeholder groups (Hu et al., 2020), extending the safety performance debate to external stakeholders is imperative. Thus, this study defines stakeholder safety performance (SSP) as a firm's capacity to reduce safety risks for internal and external stakeholders such as employees, end-consumers and communities.

In Nepal, on average, over 200 people die, and 20,000 workers suffer workplace accidents and injuries (Marahatta et al., 2018) and some manufacturing firms produce substandard goods or products (e.g. medicine) that have adverse health implications for consumers (Neupane et al., 2021). While such occurrences have spurred calls on firms to ensure SSP, studies that empirically investigate the factors influencing firms to aim for SSP remain lacking. To navigate around resource constraints faced by small and medium-sized enterprises (SMEs), scholars (Baah et al., 2023; Alvarez et al., 2023) draw on the stakeholder theory (ST) to suggest that firms through stakeholder engagement can acquire and share knowledge, pool resources, and gain competencies that enhance competitive advantage. Moreover, scholars (Moorhead et al., 2013; Laroche et al., 2020; Zhou et al., 2024) have suggested the relevance of social media (e.g. Facebook and Twitter) in promoting safety performance. Benitez et al. (2018) add that firms can develop social media as a strategic capability if they can effectively use it to gather and share information and knowledge and improve innovation. Hudson and Hall (2013) explain further that social media strategic capability (SMSC), defined as "firms' ability to integrate information and resources derived from social media to make better strategic decisions" (Zhang & Zhu, 2022, p. 58), can enable firms to access insights about stakeholder awareness and perceptions of health and safety programs. Despite the benefits, empirical studies that explore how SMSC drives the acquisition and sharing of knowledge for improved SSP remain lacking. Thus, there is a need to probe further into the SMSC-SSP relationship.

Furthermore, when employees share positive information about their employer and firm with relevant stakeholders on social media, it can enhance their reputation and attract stakeholder support (Jiang et al., 2022). Van Woerkum and Van Lieshout (2007) indicate that firm reputation tends to drive firms toward operation practices and standards that ensure safety for stakeholders because firms' inability to adopt such measures will result in bad publicity. Additionally, Tsironis et al. (2022) assert that social media provides firms and entrepreneurs with a platform to acquire circular economy (CE) related information, which can lead to the identification of new CE-related business opportunities. Le et al. (2024) draw insights from the resource-based view (RBV) to elucidate that retrieving essential CE information, which leads to the identification of CE opportunities, breeds circular economy entrepreneurship. Given this backdrop, this study argues that firms that develop SMSC will effectively retrieve essential CE information from social media platforms to enhance circular economy entrepreneurship. Baah et al. (2023b) suggest that circular economy entrepreneurship affects safety performance via reduced environmental accidents and penalties, reduced product defects and improved quality and durability

of products. In harmony with the assertion, this study argues that firms acquiring information via social media platforms can understand where innovation is required to tackle the safety concerns of stakeholders while implementing CE initiatives. However, empirical studies investigating how circular economy entrepreneurship directly affects SSP are lacking.

In response to the identified gaps, this study is one of the few research attempts to examine how SMSC, directly and indirectly, affects SSP via the mediating mechanisms of firm reputation and circular economy entrepreneurship. Thus, this study draws on the ST and RBV to address the following research objectives:

1. To examine the effect of SMSC on firm reputation, circular economy entrepreneurship and stakeholder safety performance.

2. To investigate the mediating effect of firm reputation on the SMSC and SSP relationship.

3. To investigate the mediating effect of circular economy entrepreneurship on the SMSC and SSP relationship.

2. Theoretical Background and Hypothesis Development

Theory Underpinning – Stakeholder Theory and Resource-Based View

Drawing on the ST and RBV as theoretical lenses, this study explores the hypothesized link between SMSC, SSP, firm reputation and circular economy entrepreneurship. According to the conceptual model, ST supports the first objective of examining the effect of SMSC on firm reputation, circular economy entrepreneurship and stakeholder safety performance, and RBV addresses the second and third objectives of investigating the mediating effect of firm reputation and circular economy entrepreneurship on the SMSC-SSP relationship as depicted in Figure 1. The ST argues that a firm does not exist and sustain itself without the support of stakeholders, which include managers, employees, shareholders, and suppliers. As a result, ensuring stakeholder's interests in decision-making and value creation can help enhance firm performance (Freeman et al., 2010; Harrison & Wicks, 2013). Freeman et al. (2010) claim that the ST offers a lens to examine the complex perspectives on how stakeholders affect and are affected by the firm's purpose and actions.

Scholars (Tang et al., 2014; Agle et al., 1999) stress that a firm's commitment towards the safety of employees, customers and communities is based on stakeholders' power. As stakeholders' power increases over the firm, the firm also experiences increased pressure to achieve product safety and quality that meets the stakeholders' expectations (Tang et al., 2014). In promoting stakeholders' safety, scholars (Smith et al., 1978; Cigularov et al., 2010) emphasised the significant role of open communication and regular interactions between the firm and stakeholders through sharing information about products, services, health, and safety. Social media, which is extensively used and recognised as an open communication platform, is an effective way of sharing information and knowledge to promote SSP (Laroche et al., 2020; Moorhead et al., 2013). From the ST perspective, social media creates an online community of customers, suppliers, retailers, investors, and other stakeholders, allowing real-time communication worldwide about products, services, firm performance, and health information (Lee, 2020; Ahmed & Streimikiene, 2021).

The RBV considers knowledge to be one of the crucial resources that helps firms achieve and sustain a competitive advantage (Chaudhuri et al., 2022; Barney, 1991). Furthermore, Teece et al. (1997), from the same theoretical lens, argue that knowledge is a rare, valuable, inimitable, non-substitutable, and intangible resource that generates competitive advantage and determines the level of profit expected from the market. However, Valentinov (2022) claims that acquiring and harnessing knowledge becomes challenging due to the dynamic nature of the business environment. Zhang and Zhu (2022) further indicate that while stakeholders help generate knowledge through social media, effectively

managing social media-generated knowledge is challenging for a firm. Nevertheless, Baah et al. (2023b) indicate that circular economy entrepreneurship as a resource enables firms to acquire and harness essential knowledge. In addition, Le et al. (2024) elucidate that firms that rely on knowledge acquired from circular economy entrepreneurship can enhance their performance by augmenting business models, promoting CE innovation and manufacturing sustainable products and services. From the RBV perspective, the knowledge firms acquire from social media through SMSC can facilitate CE entrepreneurs to explore innovative ways that impact SSP. Additionally, Jiang et al. (2022) posit that social media provides a platform for stakeholders to share relevant information, which can significantly drive reputation.

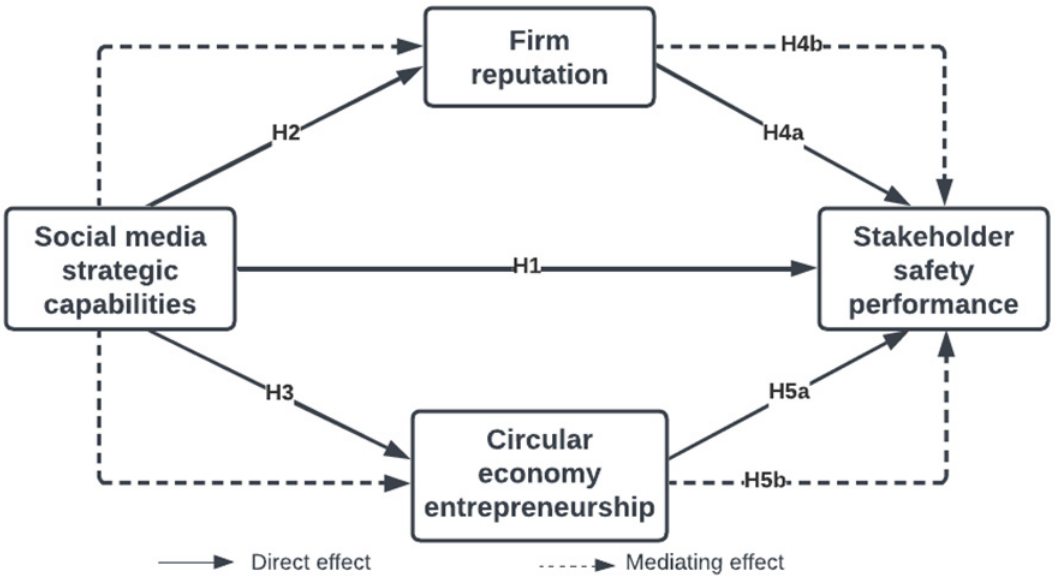

Figure 1: Conceptual model showing hypotheses (Source: Figure created by Author)

Hypothesis Development

The Effect of SMSC on SSP, Firm Reputation and Circular Economy Entrepreneurship

Wang et al. (2017) connote that customers solicit more information about brands and product quality as well as safety concerns from social media platforms. Scholars (Moorhead et al., 2013; Zhang & Zhu, 2022) report that firms are increasingly building SMSC as a knowledge-based strategic capability with the potential to improve SSP, which seeks to reduce safety hazards among stakeholders. Wang et al. (2017) add that social media is an effective way to gauge stakeholders' opinions, experiences, and suggestions regarding safety practices promptly. As social media is built on the idea of sharing information, it allows stakeholders to communicate with others instantly and frequently stimulates engagement, trust, and understanding among stakeholders (Hollebeek et al., 2014; Men & Tsai, 2015). While studies indicate social media as an innovative means of intervention and information resource towards safety practices (Wang et al., 2017), studies exploring SMSC in promoting SSP are limited. Thus, this study argues that:

H1: SMSC is positively associated with SSP.

Firm reputation is regarded as a key indicator of successful performance (Cerda Suarez et al., 2020), and it is the outcome of a firm's conduct over time, as the stakeholders assess based on the value

delivered to them. In a study that investigated the interaction between social media and firm reputation, Dijkmans et al. (2015) concluded that firm engagement in social media activities by responding to customers' complaints and sharing positive and entertaining firm news is positively associated with firm reputation. On the other hand, Horn et al. (2015) suggest that consumers and employees can harm a firm's reputation by sharing negative reviews and harmful perceptions of products, services, brands, and workplaces on social media. Given social media's global reach and audience, this study argues that the benefits of social media can outweigh the risks if utilised adequately by firms as a strategic capability. Moreover, Benitez et al. (2020) highlight that SMSC can provide firm control over the messages, ensuring the flow of credible messages and information to stakeholders. Thus, by leveraging the power of SMSC, firms can effectively acquire and share information from social media to help strengthen their image and reputation (Jiang et al., 2022). Thus, this study hypothesises that:

H2: SMSC is positively associated with a firm reputation.

Highlighting social media as a value co-creation source, Esposito et al. (2023) conclude that social media (e.g. Twitter) plays a significant role in sharing CE-related information among stakeholders. In a recent European Union (EU) study, Tsironis et al. (2022) retrieved LinkedIn data about companies involved in CE practices to examine the CE trends and circular economy entrepreneurship in different businesses, industries, and countries. While customers and the public post their CE-related (such as recycling, waste, and pollution reduction) experiences and feedback on social media platforms, entrepreneurs retrieve such information through knowledge, improving the firm's performance (Esposito et al., 2023). However, Park et al. (2017) note that due to the incorrect and untrustworthy information available on social media, SMSC, coupled with the entrepreneur's experience and knowledge, can facilitate firms to recognise and exploit new business opportunities. While most studies (Zhang &Zhu, 2022; Järvinen & Taiminen, 2016) have focused on the use of social media in marketing literature as a medium to share information and promote their new products and services among their customers and suppliers, research on the social media effectiveness for new ideas generation and innovation from the strategic perspective is reported lacking (Zhang & Zhu, 2022; Barlatier & Josserand, 2018), particularly in circular economy entrepreneurship context. Thus, this study argues that:

H3: SMSC is positively associated with circular economy entrepreneurship.

The Effect of Firm Reputation on SSP

A positive firm reputation attracts higher investments required to develop and implement safety measures, as Dijkmans et al. (2015) noted. Additionally, Sotorrío and Sánchez (2008) found that firms with higher reputations presented a higher level of social responsiveness towards stakeholders and concluded that a firm's reputation positively correlates to stakeholder safety behaviour. For example, Toyota, as a highly reputed firm, has implemented a safety management system in the manufacturing line to provide employees with a safe working environment by identifying hazards, eliminating risks, and ensuring driver safety by meticulously building cars following rigorous safety standards that ultimately reinforce manufacturing competitiveness and reputation (Roussel & King, 2013). Through social media platforms, firms have accumulated positive goodwill and embrace safety measures for the employees, customers, communities, and environment to maintain such high reputations. While studies insinuate that firm reputation drives safety measures (Fomburn et al., 2000; Van Woerkum & Van Lieshout, 2007), there is a lack of study on the impact of firm reputation on SSP and the mediating role of firm reputation in the SMSC-SSP relationship. Thus, this study argues that firms with positive reputations are more likely to preserve and improve their reputation via social media by designing and manufacturing products, services and processes that embrace stakeholder safety concerns from production to after-sales. Hence, this study hypothesises that:

H4a: Firm reputation is positively associated with SSP.

H4b: Firm reputation mediates the relationship between SMSC and SSP.

The Effect of Circular Economy Entrepreneurship on SSP

Drawing insights from RBV, Le et al. (2024) posit that via circular economy entrepreneurship, firms can discover and exploit CE opportunities to improve sustainable performance while ensuring environmental safety. Moreover, in an empirical study using manufacturing firms in Nepal, Baah et al. (2023a) insinuate that circular economy entrepreneurship through engagement with stakeholders and identifying CE opportunities can help achieve CE performance, including reduced environmental accidents, product quality improvement, minimised supply-related risks, decreased energy and material consumption. While most CE studies have focused on environmental and economic concerns and implications (Baah et al., 2023b), scholars (Mies and Gold, 2021; Chen et al., 2023) contend that stakeholder safety is a social concern that circular economy entrepreneurship can help achieve and given that the mediating role of circular economy entrepreneurship in the SMSC-SSP is under-explored, there is the need to probe further.

While CE practices are in line with the conventional role of recycling and reduction of resources, in today's volatile environment, firms need new insights and innovative solutions to improve sustainable performance (Zhang & Zhu, 2022; Le et al., 2024; Baah et al., 2023b), particularly in the stakeholder safety domain. To do so, this study argues that CE entrepreneurs should leverage SMSC to identify and utilise innovative CE-related opportunities that enhance the safety of stakeholders directly or indirectly impacted by the firm's operation. Moreover, with the increase in CE awareness, firms are addressing stakeholder safety concerns from the designing to the post-consumption phase through integrating safety design, producing quality and safe products, using recyclable and non-toxic materials, creating a safe working environment, safely disposing waste through reuse and recycle (Fortunati et al., 2020; Bom et al., 2019; Park et al., 2020), however, research focusing on circular economy entrepreneurship effect on SSP as well as how it mediates the SMSC-SSP relationship is still lacking. Thus, this study argues that:

H5a: Circular economy entrepreneurship is positively associated with SSP.

H5b: Circular economy entrepreneurship mediates the relationship between SMSC and SSP.

3. Research Methods

Context and Data Collection

The study area for this research is Nepal, a developing country comprising five development regions: Far Western, Mid-Western, Western, Central, and Eastern. These regions support more than 400,000 SMEs, which contributes to the economic development of the regions and country (Shakya et al., 2024). Based on this data, the researcher contacted about 600 managers in various SMEs, but only 340 managers volunteered to participate in the survey using a simple random sampling technique. The firms selected for the study were located through the Federation of Nepalese Chambers of Commerce and Industry's online platform and met the following requirements: (1) were manufacturing companies; (2) were implementing CE in some capacity; and (3) had complete contact information available.

The questionnaire was developed based on the theoretical framework, and our suggested model is explained in Sections 1 and 2. Google Forms was used to create and distribute the questionnaire for pre-testing to three academics and three business professionals. The face and content validity of the questionnaire were evaluated. Based on the feedback from these experts, the researcher made a few minor changes to the wording and sentence structure. Of the 340 managers who received the final questionnaire, 152 usable responses were received, indicating a response rate of 44.7%. This study uses the G*Power software to determine that the minimum sample size needed for this study should be 134 to achieve a medium effect size of 0.3 and a statistical power of 0.95. Thus, the 152 responses obtained for this study still make an adequate sample size.

Common Method Bias (CMB)

This study used Harman's one-factor test in SPSS 28 to ensure that the study was free from CMB. The results indicated that the single component explained 37% of the total variation below the recommended threshold of 50%. Additionally, as suggested by Podsakoff et al. (2012) and Kock (2015), the study performed a full collinearity test (FCT). The FCT results indicated that this study is free from CMB since variance inflation factors (VIF) were within an acceptable range of 1.477 to 2.656, below the recommended threshold of 3.3 (Kock, 2015). Further, the results of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity had values of 0.894 and (<) 0.001, respectively. These results show that the sample is suitable for factor analysis. Furthermore, there was no statistically significant difference between early and late responses in the t-test analysis, ruling out the possibility of non-response bias.

Characteristics of Respondents

The majority of respondents (38%) work in other industries, followed by those who work in the food and beverages (30.9%) industry. The aluminium and metal-producing sector also accounted for 11.2% of respondents, and the wood and timber processing sector accounted for 9.9%. The textile-making, pharmaceuticals/chemicals, rubber/plastic goods, and electronics industries accounted for 4.6%, 2.6%, 1.3%, and 0.7%, respectively. Regarding job qualifications, 16.4% were procurement/purchasing managers, 29.6% were in other positions, and 36.2% were operations/production managers. Supply chain and logistics managers accounted for 12.5% and 5.3%, respectively. Concerning educational qualification, master's, intermediate/+2 (Grade 11 and 12), SLC (School Leaving Certificate)/SEE (Secondary Education Examination), bachelor's, and doctoral degrees were held by 25.7%, 25.7%, 25%, 23%, and 0.7% of the respondents, respectively. Our sample was dominated by businesses with 1–60 employees (64.5%), then businesses with 61–500 employees (19%), and then businesses with 500+ employees (16.5%).

Measurement of Constructs and Data Analysis

This study employs a five-point Likert scale (1: strongly disagree and 5: strongly agree) to assess the adopted constructs. SMSC was measured using six items adapted from Zhang and Zhu (2022) and Nguyen et al. (2015). Circular economy entrepreneurship was measured using six items adapted from Le et al. (2024) and Cullen and De Angelis (2021). Firm reputation was measured using four items adapted from Baah et al. (2021) and De Castro et al. (2006). Finally, we measured SSP using six items adapted from Siu et al. (2004) and Mearns et al. (2003). Table 1 presents the complete list of measurement items used in this study. Also, the study employed the partial least square structural equation modelling (PLS-SEM) method because *(1)* PLS-SEM is a relevant method with advanced features in testing relationships between variables in predictive research (Henseler et al., 2015; Jabbour et al., 2020) and (2) when the field or the domain being studied is still in its early phases of exploration and thus, require advanced testing (Henseler et al., 2015; Hair et al., 2019). Following the guidelines of Hair et al. (2019), this study uses the Smart PLS 3 software to conduct a confirmatory factor analysis (CFA) to ascertain the reliability and validity of the constructs.

4. Results

Evaluation of the Measurement and Structural Model

The reliability and validity of the measurement model were verified following the procedure suggested by Henseler et al. (2015). The confirmatory factor analysis (CFA) results were examined to test convergent validity through average variance extracted (AVE) measure, discriminant validity through heterotrait-monotrait (HTMT) ratio of correlation, and reliability through Cronbach's alpha (α) and

composite reliability (CR) statistics. As summarised in Table 1, all constructs achieved satisfactory convergent validity (AVE > 0.50), satisfied the robust discriminant validity criteria (HTMT < 0.90) and had a reliability statistic moderately above the threshold recommended in the literature (CR > 0.80, α > 0.70). The variance inflation factors (VIFs) presented in Table 1 were between 1.365 and 2.859, below the recommended threshold of four (Hair et al., 2016), thereby showing that the model is free from multicollinearity. Kock (2015) further adds that if the VIF values are also <3.3, as is the case in this study, the model can be considered free from common method bias (CMB). During CFA, items with factor loadings below 0.70 were deleted to improve model strength and predictive capabilities (Hair et al., 2019).

Table 1. Model and structural assessment

Construct	Item	Factor loading	Outer VIF
Social media strategic capability (SMSC)	SMSC1	0.787	1.796
	SMSC2	0.843	2.077
α: 0.821	SMSC3	0.749	1.615
CR: 0.830	SMSC4	0.726	1.477
AVE: 0.583	SMSC5	0.706	1.582
	*SMSC6	--	--
Circular economy entrepreneurship (CEE)	CEE1	0.797	1.708
	*CEE2	--	--
α: 0.803	CEE3	0.802	1.703
CR: 0.809	*CEE4	--	--
AVE: 0.629	CEE5	0.826	1.778
	CEE6	0.746	1.551
Firm reputation (FR)	FR1	0.870	2.656
α: 0.867	FR2	0.853	2.382
CR: 0.868	FR3	0.840	2.341
AVE: 0.715	FR4	0.819	2.082
Stakeholder safety performance (SSP)	*SSP1	--	--
	SSP2	0.825	1.753
	SSP3	0.823	1.831
α: 0.828	*SSP4	--	--
CR: 0.832	SSP5	0.807	1.737
AVE: 0.660	SSP6	0.793	1.712

**Items deleted during CFA to improve measurement and structural model quality*

Additionally, the study assesses the predictive power and relevance of the model using the R-squared (R^2) and Stone-Geisser's Q^2, respectively. The results indicate that the model achieves predictive power since the variance of firm reputation, circular economy entrepreneurship and SSP explained by the model were 0.231, 0.265, and 0.633, respectively. The Q^2 values of 0.211, 0.246, and 0.226 for firm reputation, circular economy entrepreneurship, and SSP show predictive relevance, respectively. The discriminant validity of the structural model examined using the HTMT ratio shows that values were below the ideal threshold of 0.90, as presented in Table 2.

Table 2. Discriminant validity (HTMT)

Construct	1	2	3	4
1. Circular economy entrepreneurship				
2. Firm Reputation	0.805			
3. SMSC	0.619	0.570		
4. SSP	0.842	0.881	0.553	

Hypothesis Testing

The study uses the bias-corrected bootstrapping technique in the SmartPLS4 software to test the proposed hypotheses. The result shows that while SMSC has a positive and significant effect on firm reputation ($\beta = 0.481$, $f^2 = 0.301$, $T = 6.504$, $p = 0.000$) and circular economy entrepreneurship ($\beta = 0.522$, $f^2 = 0.361$, $T = 7.977$, $p = 0.000$), its effect on SSP ($\beta = 0.067$, $f^2 = 0.009$, $T = 0.916$, $p = 0.359$) although positive is insignificant. The results indicate support for H2 and H3 and a lack of support for H1. From the results presented in Table 3 and Figure 2, the study found support for H4a and H5a since firm reputation ($\beta = 0.483$, $f^2 = 0.295$, $T = 3.532$, $p = 0.000$) and circular economy entrepreneurship ($\beta = 0.313$, $f^2 = 0.132$, $T = 3.194$, $p = 0.001$) significantly and positively influence SSP. Regarding the mediation effects, the results show that firm reputation ($\beta = 0.228$, $p = 0.004$) and circular economy entrepreneurship ($\beta = 0.162$, $p = 0.005$) positively and significantly mediated the relationship between SMSC and SSP, thereby providing support for H4b and H5b. The study further adopted control variables, namely firm industry, age, and size, to enhance the validity of the results. The results indicate that these control variables had an insignificant impact on SSP (See Table 3).

Table 3. Hypothesis testing

Paths	Beta (β)	f^2	Standard Deviation	T Statistics (|O/STDEV|)	P Values	Inner VIFs
Direct effect						
H1(ns): SMSC ➔ SSP	0.071	0.009	0.077	0.916	0.359	1.497
H2(s): SMSC ➔ FR	0.481	0.301	0.074	6.504	0.000	1.000
H3(s): SMSC ➔ CEE	0.515	0.361	0.065	7.977	0.000	1.000
H4a(s): FR ➔ SSP	0.475	0.295	0.134	3.532	0.000	2.081
H5a(s): CEE ➔ SSP	0.314	0.132	0.098	3.194	0.001	2.036
Control variable						
Firm industry ➔ SSP	0.026	0.002	0.059	0.436	0.663	1.058
Firm Age ➔ SSP	0.016	0.001	0.052	0.310	0.757	1.032
Firm Size ➔ SSP	0.089	0.018	0.062	1.431	0.152	1.182
Mediation effect						
H4b(s): SMSC➔FR➔SSP	0.228	--	0.079	2.906	0.004	--
H5b(s): SMSC➔CEE➔SSP	0.162	--	0.058	2.778	0.005	--

**Note: s – supported; ns – not supported; FR – Firm reputation; CEE – Circular economy entrepreneurship.*

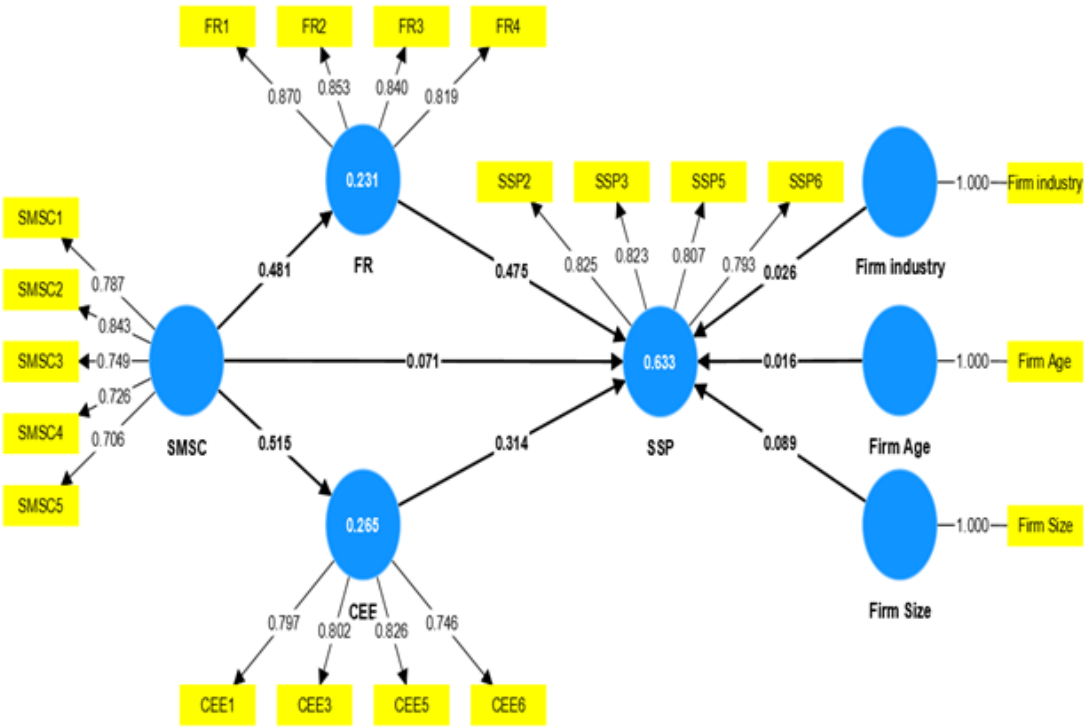

Figure 2: Structural model

5. Discussion

This study explored how, through SMSC, firms can amass the necessary information and other resources to achieve higher SSP, drawing on the stakeholder and RBV theories. In addition to the direct effect, the study further explores the indirect mechanisms of firm reputation and circular economy entrepreneurship in enhancing SSP in the novel context of Nepal, a developing country. While existing SMSC literature (Wang et al., 2017; Moorhead et al., 2013; Zhang & Zhu, 2022) suggests that SMSC promotes safety performance by helping firms acquire and disseminate safety-related information to stakeholders through social media, this study presents contradictory findings in that the direct effect between SMSC and SSP (H1) although positive is insignificant. This result can be attributed to the fact that SMSC helps firms amass information, which cannot result in improved performance but needs to be further utilised to improve practices and build opportunities to boost SSP. Concerning the interaction between SMSC and firm reputation (H2), previous studies (Zhang & Zhu, 2022; Dijkmans et al., 2015) have highlighted that the firms responding to stakeholders' feedback and complaints via social media efficiently promote firm reputation by effectively disseminating information that aids stakeholders in making timely safety decisions. Specifically, the higher the utilisation of SMSC, the higher the firm reputation for firms. Similarly, Esposito et al. (2023) and Kristoffersen et al. (2020) add that through SMSC, firms gain access to CE-related new insights and innovative ideas and develop circular economy entrepreneurship (H3) to identify new ways of producing products and services that contribute to sustainability.

Moreover, H4a and H4b reveal that most firms, to maintain and improve their reputation, tend to engage in SSP by minimising accidents on employees, improving product safety for customers, and ensuring the safety of the public and the environment. This finding is consistent with that of Sotorrio et

al. (2008) and Dijkmans et al. (2015) in that firms with positive reputations implement safety measures towards stakeholders. Furthermore, highly reputed firms deploy SMSC to acquire and share safety-related information that drives SSP. Supporting this finding, scholars (Jiang et al., 2018; Van Woerkum & Van Lieshout, 2007) indicate that highly reputed firms via SMSC have access to the resources and knowledge for enhancing SSP. In exploring the significant role of circular economy entrepreneurship, this study (H5a & H5b) found that circular economy entrepreneurship not only significantly affects SSP but also mediates the SMSC-SSP relationship. From the RBV perspective, firms can deploy circular economy entrepreneurship to discover and exploit innovative CE-related opportunities that help achieve stakeholder safety by efficiently utilising acquired knowledge and resources, which help avoid waste and reduce adverse environmental impact, as Baah et al. (2023a). In brief, firms relying on SMSC can acquire and disseminate essential safety information via social media to sustain and promote SSP. This can further be enhanced by enhancing the firm's reputation and circular economy entrepreneurship initiatives that breed innovation for competitive advantage.

6. Conclusion

In response to calls to promote stakeholder safety and explore social media capabilities and benefits, this study draws insights from the ST and RBV to examine the interactions between SMSC, firm reputation, circular economy entrepreneurship, and SSP. This study investigates and tests an original model using 152 responses from firm managers in Nepal. SMSC, firm reputation, and circular economy entrepreneurship collectively explained 63.3% of the variance of SSP. The study also employed firm age, size, and industry as control variables to account for other factors potentially impacting SSP. The findings suggest that although SMSC does not directly and significantly influence SSP, the indirect effects on SSP via firm reputation and circular economy entrepreneurship are significant, indicating full mediation effects. While safety performance in the recent decade has been topical among manufacturing firms, this study suggests that firms can mitigate safety concerns by gathering and sharing information with stakeholders on safety measures. This further aids firms in building solid reputations, identifying CE opportunities, and strengthening SSP. In brief, the study findings prove that social media platforms are excellent sources of information that help firms build strong stakeholder collaborations, amass other external resources, boost firm reputation, and aid in exploiting CE opportunities.

7. Implications

Theoretical Implications

This study makes three key contributions to theoretical literature drawing on the ST and RBV. First, this study enriches the social media literature by examining how SMSC influences SSP. While past studies highlight how SMSC can help firms acquire and disseminate information for innovation and improved performance, there is a lack of emphasis on the mechanisms through which SMSC can be leveraged for improved SSP, circular economy entrepreneurship, and firm reputation. Hence, there is a need for further investigation into the diverse means by which SMSC essentially enhances firm performance since SMSC remains under-researched. Drawing on the ST and RBV, this study adds that SMSC is a strategic resource that enables firms to develop circular economy entrepreneurship by acquiring and disseminating CE-related information and knowledge from and to the stakeholders that helps improve SSP.

Second, this study contributes to the social media literature by providing a mediation approach for understanding the complex interactions between SMSC and SSP via firm reputation and circular economy entrepreneurship. Moreover, the study offers insights into how firms can tap into the potential of social media in building reputation and providing a platform for identifying new CE opportunities. While prior studies suggest that SMSC impacts firm reputation (Jiang et al., 2022; Dijkmans et al.,

2015) and can drive innovations for circular economy entrepreneurship (Zhang & Zhu, 2022), research on the mediating effect of firm reputation and circular economy entrepreneurship in the SMSC-SSP relationship is lacking. This study addresses this gap and contributes to the literature by highlighting the positive and significant effects of firm reputation and circular economy entrepreneurship as mediators in reinforcing the SMSC-SSP relationship.

Third, this study contributes to the limited understanding of the antecedents of SSP by showing that SMSC, circular economy entrepreneurship and firm reputation are potent means through which firms can enhance safety performance. Specifically, firms can acquire and share safety information with stakeholder groups via SMSC and can also fully integrate information and resources derived from social media to engage in circular economy entrepreneurship initiatives that promote stakeholder safety. In their quest for firm reputation, firms can also engage in safety practices for employees, customers, and the community, ultimately enhancing SSP. Finally, this study is the first to comprehensively understand SMSC, firm reputation, circular economy entrepreneurship and SSP in Nepal, a developing economy. This is essential because understanding these interactions or relationships in developing countries differs from developed countries due to differences in contextual characteristics such as institutional voids.

Practical Implications

This study has four practical implications for firms. Firstly, this study recommends that managers of firms experiencing resource and technological constraints utilise social media as a low-cost and fast strategy to accumulate information about essential stakeholders, identify CE opportunities, and amass other resources. Particularly, to improve stakeholder safety, this study highlights fostering good relationships with internal and external stakeholders via social media platforms to understand their safety concerns and how to incorporate those safety needs into production and consumption. Additionally, since the direct effect of SMSC on SSP is insignificant, managers in Nepal are encouraged to explore other mechanisms via which SMSC can improve SSP, such as firm reputation and circular economy entrepreneurship since this helps amplify impacts. Second, managers should leverage SMSC since it is crucial for improving the firm's reputation and enhancing circular economy entrepreneurship. Particularly, since SMSC drives a positive firm reputation, managers of firms can easily build credibility and trust among stakeholders and develop an ability to enhance SSP via social media initiatives. Third, manufacturing firms in emerging economies are implored to deploy circular economy entrepreneurship in acquiring and exploiting novel insights via social media to identify innovative ways of solving safety issues, learning new safety approaches and proposing new safety ideas while ensuring the environment's safety. Finally, this study provides a better understanding of the Nepali context by providing insights regarding the support that can be provided to firms to help develop sustainable safety measures for diverse stakeholders.

8. Limitations and Future Research Directions

Despite novel theoretical and practical contributions, this study certainly has some limitations. First, the data is obtained from firms in Nepal; thus, future studies can replicate this study in other geographical settings and large-scale industries to test the hypothesis and draw confirmatory or contradictory conclusions. Second, this study only examined firm reputation and circular economy entrepreneurship as mediating variables to explore the SMSC effect on SSP. Future research can investigate other mediating variables significant to the SMSC and SSP relationship to extend this study. In addition, longitudinal data can be collected and analysed to reveal the long-term associations between the selected variables. Lastly, since the majority of firms in the study are SMEs, future studies can be specific to other firm types and sizes in diverse industries.

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